COMMENTS TO THE FCC BPL NPRM

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Notice Regarding Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems — ET Docket No. 04-37

Reply Comments by H. Ward Silver

I am responding to the reply comments filed by the Ambient Corporation on 22 June 2004 as I find them illustrative of the fundamental flaws inherent in deploying BPL technology on a shared basis with licensed services and mis-applying existing Part 15 Rules. I discuss several statements quoted from Ambient's reply comments.

1. "NTIA's statement that interference risks posed by Access BPL are "high" suggests that it considers Access BPL systems guilty by definition, without proof. This should not be accepted by FCC."

   Why then, should the FCC accept the similarly unproven (and increasingly frequently disproven) claims by representatives of Access BPL equipment manufacturers that interference to licensed services will not occur? In fact, the more actual testing is performed, the more obvious it becomes that Access BPL does cause harmful interference that is very difficult to resolve.

2. "We support adoption of the BPL installation database, as long as it is kept confidential and available for FCC and other Federal Government users only. More appropriately, to reduce the bureaucratic burden, each deploying utility should maintain a database for its locale, and make these available to the FCC upon request."

   This would throw the entire burden of interference resolution back upon the FCC since consumers and licensed users experiencing interference would be required to register a formal complaint with the FCC. FCC personnel would then have to go through the cumbersome and expensive process of making the necessary inquiries of the BPL providers, monitoring the progress of the resolution process, and maintaining the necessary documentation. The inevitable delay and inefficiency of such a system would cause it to fail immediately with the Commission left holding the bag.

3. "The NTIA suggests using BPL system shutdown as a tool to investigate interference. We do not agree that there will be " a time of little or no traffic…" since large number of customers including government services will be users of the BPL systems.

Therefore in order to achieve network stability, reliability and customer confidence, such proposal should not be adopted."

Without presenting a viable alternative to investigate and resolve interference, this is an implicit admission that BPL providers (a) know that they can not create a network that does not cause interference and (b) have no intention of developing a credible interference response. Additionally, if BPL providers can not shut down their systems to perform interference evaluation, when and how would they suggest that verification to support interference resolution be done? They have no such suggestions and field tests demonstrate that there is no alternative.

4. "We believe that the NTIA recommendation to certify Access BPL systems rather than verify is another obstacle, which would slow down the penetration of Access BPL technology and contradict current FCC policy to streamline and simplify the equipment authorization process. It would also be unique in the case of unintentional radiators."

   Ah, but BPL - a distributed system of line source radiators - is entirely unique as a unintentional radiator! Verification for such a system is useless because the system will have already been deployed. Certification is the norm for all devices that operate under Part 15 rules and, as those rules clearly state, certification must be performed on a representative system configuration. Since the power distribution lines are a fundamental component of the BPL system, certification must be performed *in situ*. For a distributed system such as BPL, certification and verification are one and the same.

5. "Furthermore, we question the results of the NTIA simulation and measurements, which justify (5 dB) corrections. We note that nobody, except NTIA, has reported such a height-dependent phenomena."

   The phenomena were not reported because they were not looked for. As a result, when BPL technology was deployed in countries covered by the referenced Working Groups, the interference was sufficiently severe that the systems had to be shut down. The NTIA should be commended for its expanded evaluation that is representative of actual conditions and radiation levels.

6. "We oppose the NTIA proposal to establish a uniform distance (10m) for measurement of radiated emission from Access BPL systems at any frequency. Such a proposal is impractical, as it predicates safe and lawful access to specific locations, and would distort the measurement results."

   On the contrary, 10m is a representative distance to the actual equipment of licensed spectrum users that would experience the interference. Why is it unreasonable to make measurements in the very locations at which radiation levels are the most important? Contrary to distorting measurement results, such measurements would provide the least distorted picture of radiation from BPL systems.

SUMMARY

It should be crystal clear to even those with a limited technical background that Access BPL technology is unsuitable for deployment on a shared basis with licensed services. Red flags are flying high in every possible area; undesired radiation, measurement technique, interference potential and resolution, certification, verification and so forth.

It is clear from numerous sources that the existing Part 15 rules do not adequately address the interference potential from BPL systems. The radiation levels and methodology are completely inadequate. The risks to licensed users are sufficiently high that the Commission must take the necessary steps to prevent the introduction of a disruptive service by constructing appropriate rules for its evaluation and deployment.

Paraphrasing Ambient Corporation's closing comments, the Commission should adopt rules limiting the deployment and operation of access broadband power systems at the earliest feasible time (1) to prevent the rapid development of the full interference impact of this emerging technology, (2) to enhance the opportunities for more suitable technologies to develop as a realistic competitive alternative to cable modems and DSL, and (3) to avoid onerous crippling interference to licensed users while this emerging industry is still in the earliest stages of its development.

More to the point, I certainly hope that the Commission will come to its collective senses, take note of the serious technical and administrative problems and realize that Access BPL as proposed will be an endless series of headaches to administrators and licensed spectrum users alike.

Respectfully submitted,

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I am a degreed Electrical Engineer with 25 years of experience in industry, broadcasting, and as an educator. I have held the General Radiotelephone license and Amateur Extra Class license (NØAX) for 28 years.